

# PATENT SPECIFICATION

DRAWINGS ATTACHED

852,447



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## COMPLETE SPECIFICATION

### Improvements in and relating to Boxes for Cigarettes or the like

We, ARENCO AKTIEBOLAG, a Swedish body corporate, of 20, Alstromergatan, Stockholm, Sweden, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to that type of cigarette or like boxes comprising a pair of narrow opposite side walls, relatively wide front and rear walls, and inner panels projecting beyond the top ends of said front and side walls, consisting of a portion of a box blank folded along a fracturing line down upon the inner faces of said front and side walls and covered by a lid hingedly connected to the rear wall. Since such boxes are mass-produced any saving of material will be of utmost importance and it is an object of the invention to provide such saving by utilizing a portion of said inner panels as a top closure flap in the lid of the box.

Accordingly the invention contemplates the provision of a box of the type referred to characterized in that a flap forming part of the top wall of said lid consists of a portion cut out of the panel section folded down upon the inner faces of said front wall.

Four constructional forms of the invention will be described, by way of example only, with reference to the accompanying drawings, in which:—

Figures 1 and 1a illustrate two cardboard blanks for making two different embodiments of the box;

Figures 2 and 3 illustrate two consecutive steps of folding the blank shown in Figure 1;

Figures 4 and 5 are perspective views of opposite sides of a tubular blank made from the sheet blank of Figure 1;

Figure 6 illustrates perspectively a closed finished box made from the tubular blank of Figures 4 and 5;

Figure 7 is a perspective view of the box of Figure 6 with the lid opened and tilted back to present the contents of the box to the user;

[Price]

Figures 5a and 6a are views similar to Figures 5 and 6, respectively, showing a hollow box blank and the finished box made from the blank shown in Figure 1a; 50

Figure 8 illustrates a third embodiment of the box blank sheet;

Figure 9 is a perspective view of the blank of Figure 8 when prefolded in a manner similar to that shown in Figure 2; 55

Figures 10 and 11 are views corresponding to Figures 8 and 9, respectively, of a fourth embodiment of the box blank.

The folding shown in Figures 4 and 5 is performed in the preparation of all the embodiments of the invention as described herein-after. Like reference characters indicate like parts and elements throughout the views.

Referring to Figure 1 of the drawings, the box blank has two panels 1 and 2 adapted to form the relative wide front and rear walls of the box, two relatively narrow panels 3 and 4 adapted to form the side walls and a side flap 5 connected to the panel 3 to produce the longitudinal seam of a hollow open ended blank. The panels 1, 2, 3 and 4 are defined by scored fold lines 14, 15, 16 and 17. From the wall panels 1, 3 and 4 project top end flaps 6, 8 and 9 interconnected by fold lines 18 and 19 which may be perforated or scored. A top end flap 7 projecting from panel 2 is separated by an incision 80 from the top end flap 9. From the panels 1, 2, 3 and 4 project end flaps 10, 11, 12 and 13 adapted to form the bottom end of the box. The top end flaps and the bottom end flaps are separated from their respective wall panels by scored fold lines 20 and 21, respectively. Glue areas 22, 23 and 24 extend across the end flaps 6, 8, 9, 7 and 11. Another glue area 25 extends along the free lateral edge of the wall panel 2. A flap 26 is formed in the end flap 6 by a trapezoidal cut 27 and can be folded along the line 20. The fold line 20 is weakened by perforations 28 or otherwise between the lines 14 and 15 and between the lines 16 and 17. The blank is provided with cuts 29, aligned with the fold line 20, between the perforated sections 28 and the

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fold lines 14 and 17.

The panel 2 and the side flap 5 have aligned transversally extending fold lines 30 and 31, which meet, at the fold lines 14 and 17, a trapezoidal cut line 32, extending across the panels 1, 3 and 4 and defining a panel section 33, adapted to form the wide front wall of the lid and lateral panel sections 34 which form the side walls of the lid. The panel section 35 disposed between the fold lines 20 and 30 is adapted to form the wide and relatively low rear wall of the lid of the box. V-shaped cuts 50 are provided at the ends of the fold lines 30 and 31.

When a box is to be made from the blank described above the adherent end flaps 6, 8 and 9 are, as shown in Figures 2 and 3, folded down along the line 20 upon the panels 1, 3 and 4 so that they will cover the cut line 32 and be secured, by the glue area 22, to said panels 1, 3 and 4 below cut line 32. In this folding operation, the flap 26 will not be folded, i.e. it will remain in alignment with the panel 1 and form an end flap projecting therefrom. Thereafter the blank is, as shown in Figures 4 and 5, folded to form an open ended hollow blank wherein the panel 2 is secured by means of its glue area 25 to the side flap 5 folded along line 17. Figure 4 shows a side wall and the rear wall of the hollow blank and Figure 5 shows the front wall and the other side wall.

The hollow open ended blank of Figures 4 and 5 is closed at its top end by first folding down the flap 26 and then folding down and adhesively securing the flap 7 to the flap 26. This completes the formation of the lid L, the top wall of which consists of the flaps 7 and 26. The side walls of the lid consist of the panel sections 34. The front wall of the lid consists of the panel section 33 and the rear wall consists of the panel section 35 which is hingedly connected along the line 30 to the panel 2 forming the rear wall of the box. The bottom end of the box is closed by first folding the flaps 12 and 13, thereafter the flap 10 and finally the flap 11, which is adhesively secured to the flap 10.

When the lid L is first opened, the fracturing lines 28 will be broken and the folded flap sections 6, 8 and 9 will remain within the box and form panels of an inner portion I (Figures 3 and 7) of the box which is enclosed by lid L when it closes the box. Thus, in the manufacture of the box, a fracturable seal will automatically be produced at 28. The consumption of material for producing the inner box portion I will be small and the flap 26 will be cut out of a portion of the blank not adapted for any other use.

In the box made from the blank of Figure 1 the longitudinal seam is formed by adhesively applying the side flap 5 to the inner face of the panel 2. The longitudinal seam of the box made from the blank of Figure 1a is, how-

ever, obtained by overlapping a side flap and the lateral edge of a panel adapted to form one of the narrow side walls of the box. Thus, as shown in Figure 1a, panel 2 has a side flap 52 connected therewith by a fold line 51. The side flap 5 and the bottom flap 13 of the panel 3 of Figure 1 are omitted. The side flap 52 has a top end flap 53 and a bottom end flap 54. The flap 52 has an angular cut 55 extending from a V-shaped cut 50 at one end of the fold line 30. Between the cut 50 and the free lateral edge 56 of the flap 52 there is a small uncut portion 57. The section 60 of the cut 32 in panel 3 does not extend onto the edge 58 (corresponding to the fold line 17 in Figure 1) but a small portion 59 is left uncut adjacent the edge 58.

When the box blank of Figure 1a is folded to form the hollow open ended blank of Figure 5a, the flap sections 6, 8 and 9 will be folded as described hereinbefore, then the side flap 52 is folded over the panel 3 and adhesively secured thereto by glue areas 61 and 62. During this folding the cut 55 will be applied upon the section 60 of the cut 32 so that they will cover each other as do the uncut portions 57 and 59. Then the top end flap 53 is folded and the trapezoidal flap 26 is folded down upon the flap 53 whereafter the flap 7 is folded down and secured adhesively thereto. The bottom of the box is closed by folding the flaps 10, 11, 12 and 54 so that the box shown in Figure 6a will be produced, in which the lid L is connected to the narrow side walls 52 by the portions 57 and 59. When opening the lid of this box the portions 57 and 59 will be torn off at the same time as the fracturable lines 28 are broken.

The box produced by the blank of Figure 8 differs from that produced from the blank of Figure 1 in that the panels 3 and 4 have top end flaps remaining after the flap sections 6, 8 and 9 forming the inner panel portion I have been folded down. Thus, in the blank of Figure 8 the cut lines 29 of Figure 1 are replaced by curved cuts 40 defining tongues 41a and 41b projecting from the panels 3 and 4. The ends of the cut line 27 extend across short cuts 42 disposed between said cut line ends and the fold line 20. The flap sections 6, 8, 9 are therefore connected with wall panels of the blank only by the two narrow bands 44. The glue area 23 has at its end rectangular extensions 23a. When the flap sections 6, 8 and 9, forming the panels of the inner portion I, are folded down along line 20 and adhesively secured to panels 1, 3 and 4 below the cut line 32 the tongues 41a and 41b form substantially semi-oval end flaps which, together with the end flap 26, remain in alignment with the panels 1, 3 and 4, as shown in Figure 9, i.e. they have not yet been folded. Thereafter the blank is folded into the form shown in Figures 4 and 5, and then the flaps 26 and 41a, 41b are folded and the edges

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of the flaps 41a, 41b will be disposed adjacent the curved convergent edges 45 of the flap 26. The side edges of the flap 26 at the cuts 42 extend adjacent the folds formed by bending the bands 44 along the line 20.

Thereafter the flap 7 is folded down whereby it will be secured by means of the glue areas 23a to the end flaps 41a and 41b and to the end flap 26 by the glue area 23. With this embodiment a lid closure is obtained which is more air tight than in the other embodiments as described hereinbefore. The bottom end of the box is closed as in said previous embodiment. Also in this case the end flap portion 6, 8 and 9 folded down upon the panels 1, 3 and 4 will form the panels of an inner box portion I covered and enclosed by the lid L. When the lid L is opened, the sealing band sections 44 are torn off at the ends of the cuts 43 (Figure 8) so that the upper free edges of the panels of the inner portion I will have an appearance similar to that shown in Figure 7 except that they will be formed at the side walls of the box by the cuts 40 and 43.

The embodiment shown in Figures 10 and 11 is similar to that shown in Figures 8 and 9 except thereby that one of the cut line extensions 43 (Figure 8) will merge into the adjacent cut 40 so that the flap 41b will have the same width as the panel 3. Thus the top closure of the lid will be tighter than that obtained by means of the blank of Figure 8 and, when the lid is to be first opened, only one sealing band 44 has to be broken. In the blank of Figure 10 the side flap 5 has a top flap 8a, which is connected with top end flap 8 by a fold line 17a and a cut 60 constituting extensions of the fold line 17. The flap 8a has a fold line 31a provided with a V-shaped end cut 50a. The flap 8a is folded down together with the flap sections 6, 8 and 9 and it is secured by means of its glue area 22a to the side flap 5 whereby the line 31a will cover the line 31. Thus, flap 5 will be folded over upon itself at its upper end. The box blank shown in Figure 1a and the box made therefrom and shown in Figures 5a and 6a may be modified by providing the blank with the end flaps 41a and 41b shown in Figure 8. The portion of the cut line 32 disposed between

the fold lines 15, 16 could alternatively be formed after the box has been completed as shown in Figures 6 and 6a.

WHAT WE CLAIM IS:—

1. A box for cigarettes or the like having a pair of narrow opposite side walls, relatively wide front and rear walls and inner panels projecting beyond the top ends of said front and side walls and consisting of panel sections of the box blank folded along a fracturing line down upon and secured to the inner faces of said front and side walls, and a lid hingedly connected to the rear wall and covering the inner panels and having a flap portion forming part of the top wall of the lid and consisting of a portion cut out of the said panel section which is folded down upon the inner face of said front wall. 55
2. A box as claimed in claim 1, wherein tongues are cut out of the panel sections which are folded down upon the inner faces of the side walls, said tongues forming end flaps folded inwardly to form part of the top wall of the lid. 60
3. A box as claimed in claim 2, wherein the tongues are narrower than the panel sections from which they are cut. 65
4. A box as claimed in claim 2, wherein the end flap of one of the narrow side walls has the same width as said wall and that the end flap of the other narrow side wall is narrower than said other side wall. 70
5. A box for cigarettes or the like substantially as described herein with reference to Figures 1 to 7, or Figures 1a, 5a and 6a, or Figures 8 and 9, or Figures 10 and 11 of the accompanying drawings. 75
6. A method of making a box substantially as described herein with reference to Figures 1 to 7, or Figures 1a, 5a and 6a, or Figures 8 and 9, or Figures 10 and 11 of the accompanying drawings. 80
7. A blank for making a box according to claim 1 substantially as described herein and as illustrated by Figure 1 or Figure 1a or Figure 8 or Figure 10 of the accompanying drawings. 85

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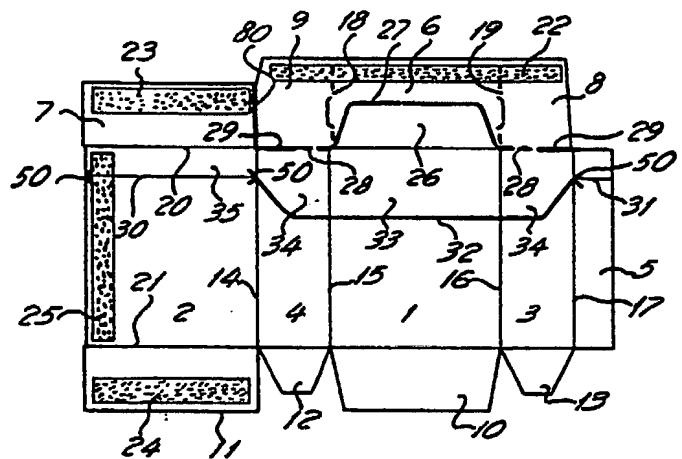


Fig. 1

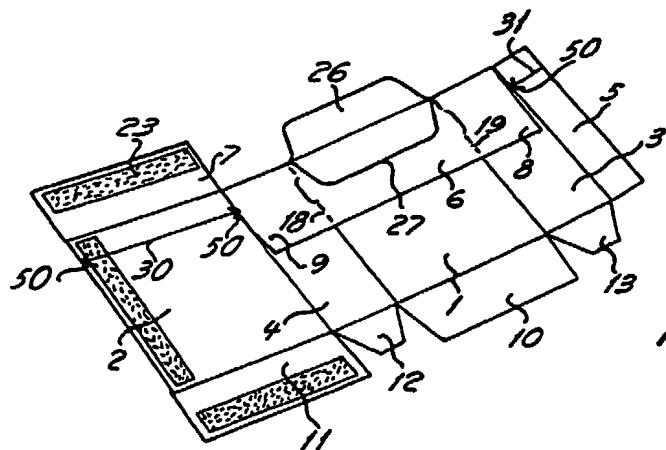


Fig. 2

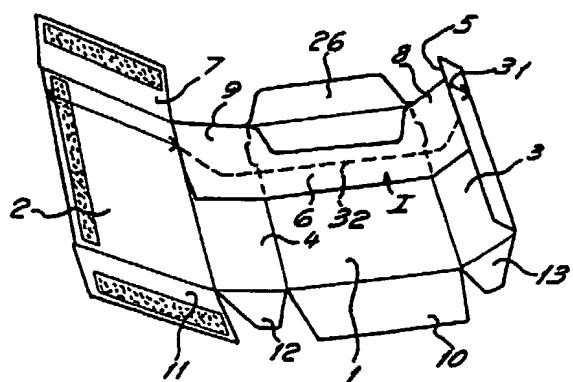


Fig. 3

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SHEETS 1 & 2

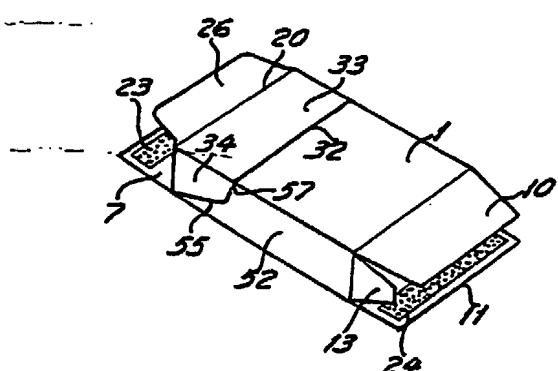
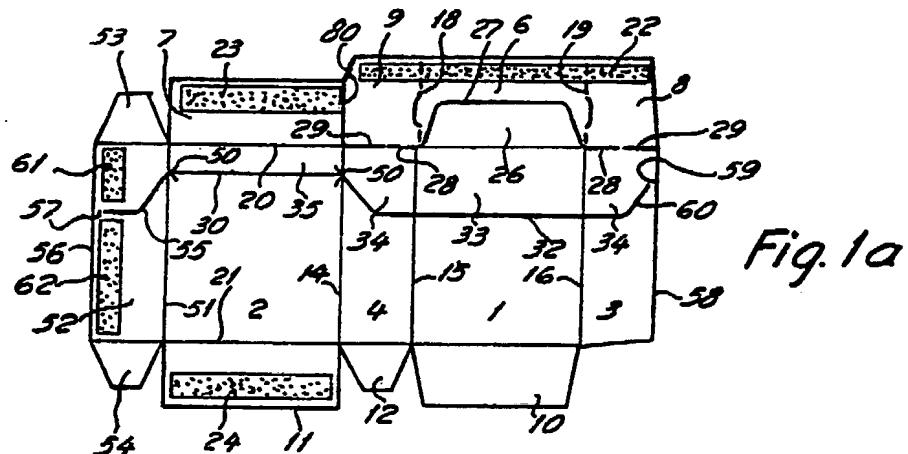


Fig. 5a

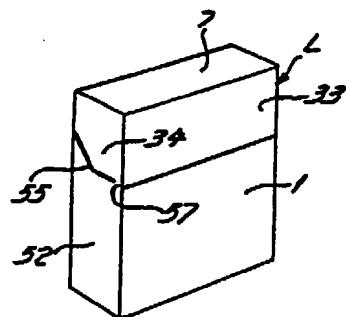


Fig. 6a

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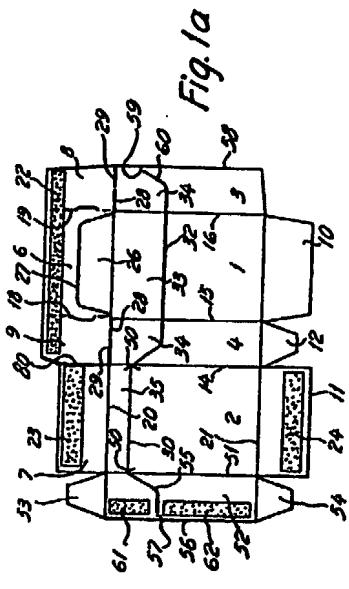


Fig. 1a

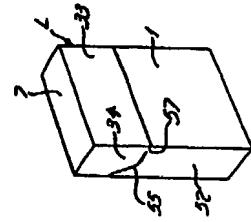


Fig. 6a

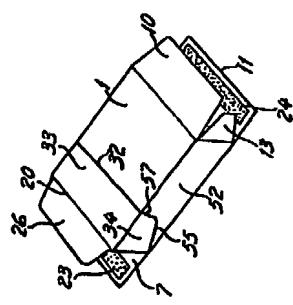


Fig. 5a

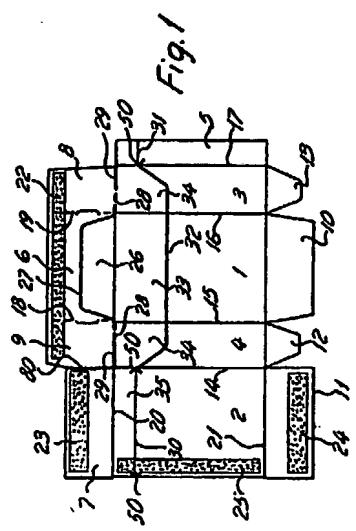


Fig. 1

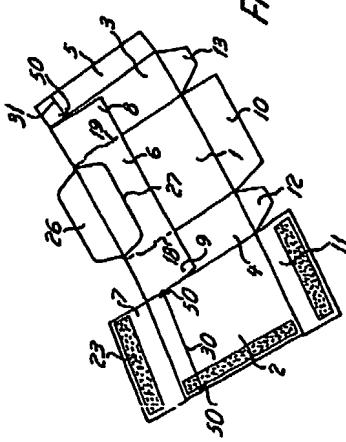


Fig. 2

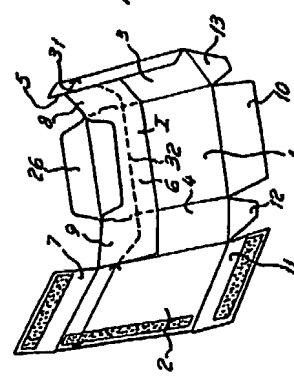


Fig. 3

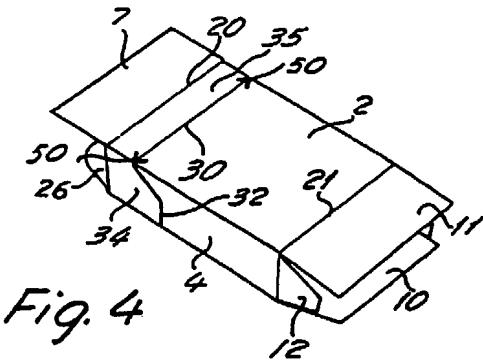


Fig. 4

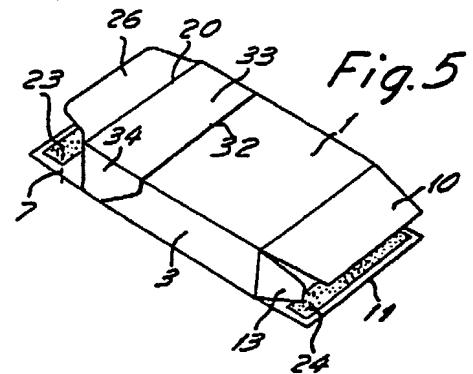


Fig. 5

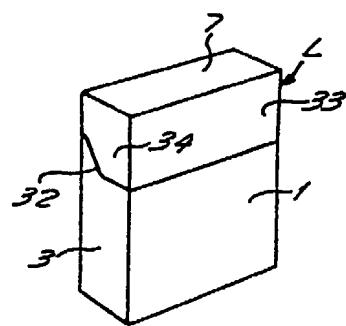


Fig. 6

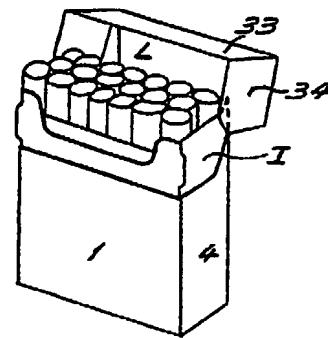


Fig. 7

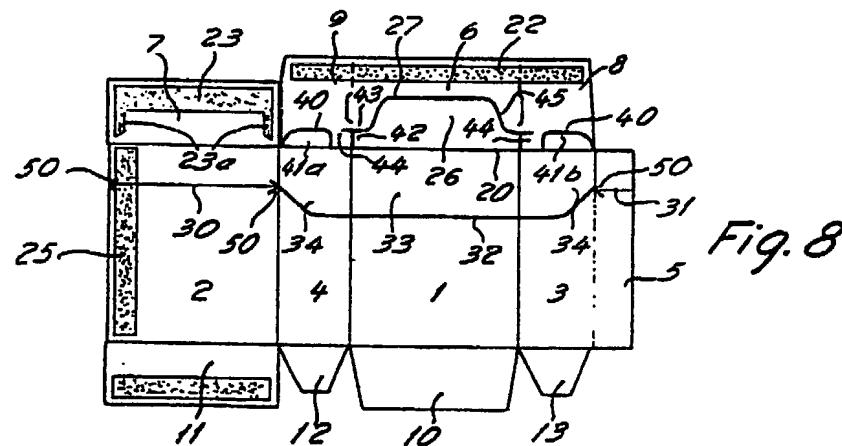


Fig. 8

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SHEETS 3 & 4

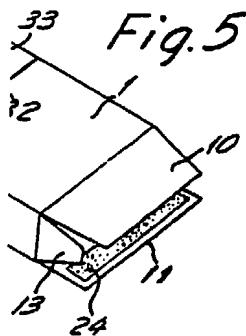


Fig. 9

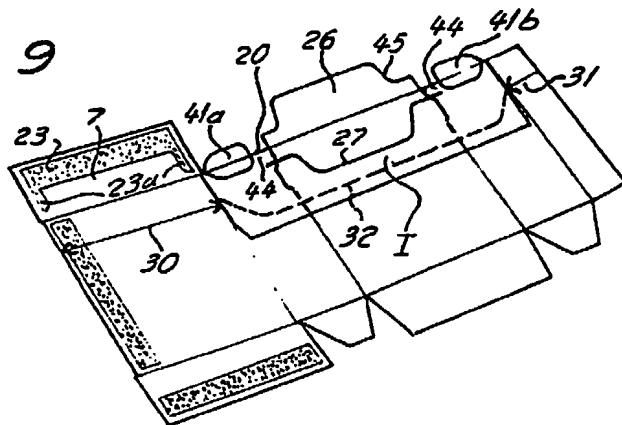


Fig. 7

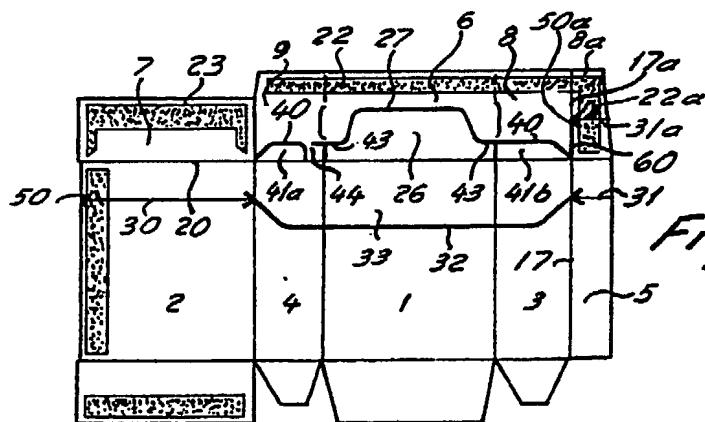


Fig. 10

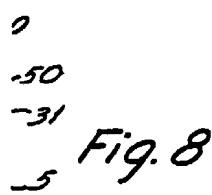
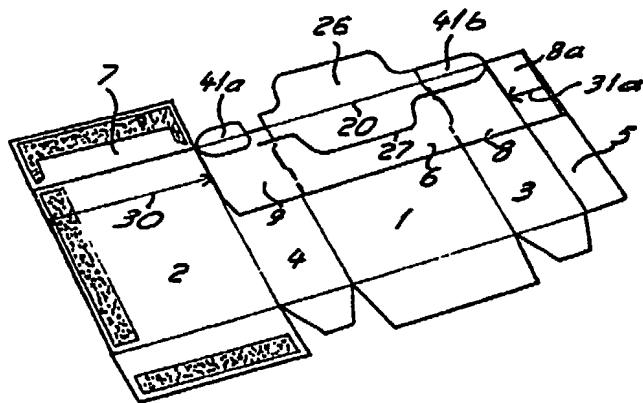


Fig. 11



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SHEET 3 of 4

Drawing is a reproduction of original on a reduced scale.

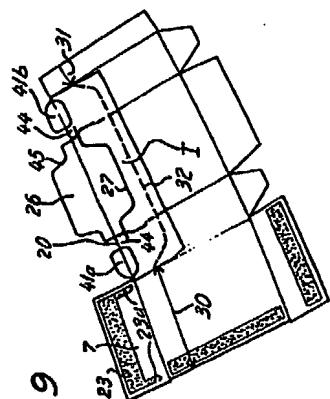


Fig. 9

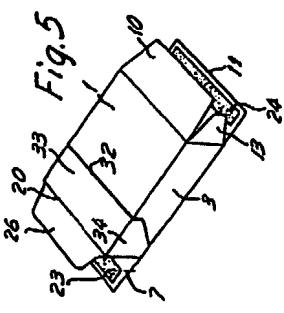


Fig. 5

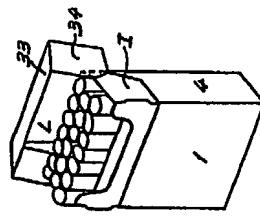
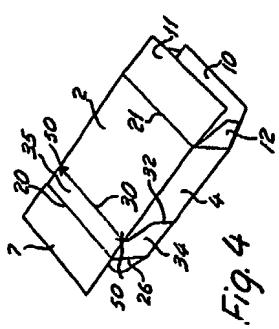


Fig. 7

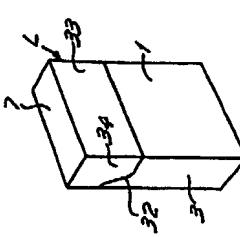


Fig. 6

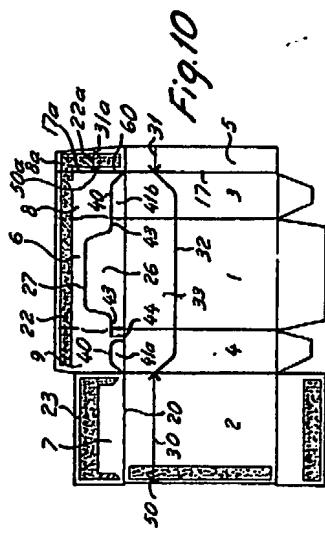
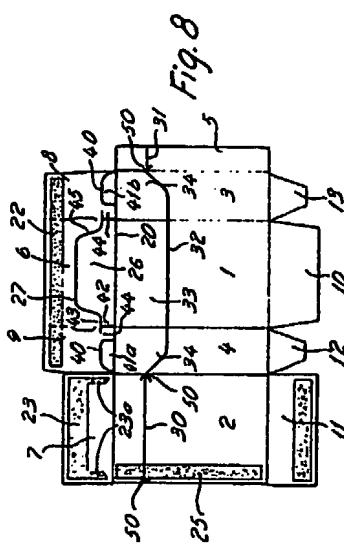


Fig. 10

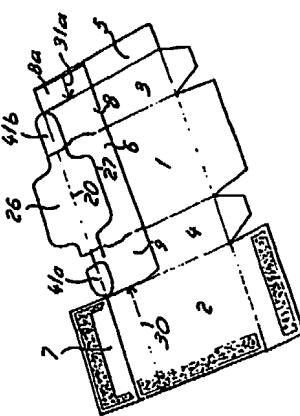


Fig. II